### Department of Polymer Technology

### List of projects

S.No.	Roll Number	Name of the Student	Title of the Project	Company Name
1	19UPTE003	SUNDAR.M	Development of CPE/NBR rubber blend for fuel hose application	MSV Engineers, Vaigai gardern city, Andipatti, theni.
2	19UPTE009	MADHAVAN.S	Optimization of tire curing temperature using	CEAT LTd,463, Dr.Annie Besent Road, Mumbai
3	19UPTE010	MANOJ KUMAR.B	thermocouple study	
4	19UPTE002	CLEMENT WINSON SAMUEL.L	Types of Silica as reinforcement for physical properties	Apollo Tyres, Sipcot, Industrial Growth centre, Sriperumbudur, Kanchipuram Dt, Chennai
5	19UPTE013	BHARATH KUMAR.K.M	Improvement of air impermiyability in TBR inner liner	Apollo Tyres, Sipcot, Industrial Growth centre, Sriperumbudur, Kanchipuram Dt, Chennai
6	19UPTE012	RISHIHARAGURU.M	Cost reduction using	Taylor Rubber Pvt. Ltd., Plot no,283, SIDCO Industrial Estate, Thirumudvakkam, chennai
7	19UPTE017	VADIVELAN.G	NBR/SBR blend in gasket compound	
8	19UPTE001	RAMPRASATH.B	PPM Rejection Reduction in Rubber to Metal Bonded in Rear Shock Bush	Roop Polymers Ltd.,F- 8/2, SIPCOT Industrial Park, sriperumbudur, chennai
9	19UPTE014	JAYA PANDIA RAJAN.S	Studies and troubleshooting in aircraft torsional box application	TATA Advanced system Limited, 10, Jigani Industrial Area, Bengaluru
10	19UPTE016	SATHISH PANDI.D	Design and Development of new paint brush handle	Sri Hari plastic Company, 1/111 KKSSN Nagar,3rd street, pandi Nagar, virudhunagar
	19UPTE004	SASISEKARAN.P		X 1 1 4 A A
11	19UPTE011	GIFTSON SALOMON RAJA.T	Cured Tire blister reduction in Chlorobutyl inner liner compound	Yokohama tyres,A-2, Sipcot Industrial Growth Centre, gangaikondan,Tirunelveli

12	19UPTE019	DINESH PRASATH.N	Failure mode and effect analysis in 60 dose dry powder inhaler	Doctor pack India Pvt Ltd, 136, Jigani link road,Bommasandra, industrial Area, Bangalore
13	19UPTE028	ASHOK.V	To eliminate the voids in H-section composite beam	TATA Advanced system Limited,10, Jigani Industrial Area, Bengaluru
14	19UPTE025	NITIN.P	Investigation of mechanical properties of insulated	Indocool composite Pvt
15	19UPTE015	SUYARAJ.S	natural fibre using polyester resin	Ltd.,complex, mugundararayapuram, ranipet, tamil nadu
16	19UPTE026	MANIKANDAN.S	Design analysise and fabrication of lightweight chassis frame for light duty multi purpose electricvehicle	RMR Automation,80/1, Thulasiram west street, meenkshi nagar, villapuram, Madurai

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution-Affiliated to Anna University, Chennai) K. VELLAKULAM, VIRUDHUNAGAR – 626 001

### **BONAFIDE CERTIFICATE**

Certified that the project report "DEVELOPMENT OF CPE/NBR RUBBER BLEND FOR FUEL HOSE APPLICATION" is the BonafIde work of SUNDAR M (920419208013) who carried out the project work under my supervision.

SIGNATURE

**Dr.S.GANDHI,** Head of the Department, Associate Professor, Dept. of Polymer Technology Kamaraj College of Engg&Tech K.Vellakulam, Virudhunagar - 626 001

SIGNATURE

Mr.S.SIVAKUMARAVEL, Supervisor, Assistant Professor Dept.of Polymer Technology Kamaraj College of Engg&Tech K.Vellakulam, Virudhunagar - 626 001



EXTERNAL EXAMINER



4/269, PRAVEENKUMAR Vaigai Garden City, Bodithasanpatty, Andipatty, Theni, Tamilnadu - 625512.

#### GST:33ETHPP3911F1ZT

Email:mvpengineers08@gmail.com

#### TO WHOM SO EVER IT MAY CONCERN

15.03.2023

THIS IS TO CERTIFY THAT M.SUNDAR (19UPTE003) STUDYING FINAL YEAR B.TECH POLYMER TECHNOLOGY IN KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY, VIRUDHUNAGAR HAS UNDERGONE INTERNSHIP IN OUR ORGANISATION FROM 20<sup>th</sup> DEC 2022 TO 15<sup>th</sup> MAR 2023 AND COMPLETED IT SUCCESSFULLY. DURING THIS PERIOD HE SHOWED KEEN INTEREST IN LEARNING THINGS AND HIM CONDUCT WAS GOOD. WE WISH HIM ALL SUCCESS FOR HIS FUTURE ENDEAVOURS.

For MVP ENGINEERS

neen

DIRECTOR



Our Bank : Bank of Baroda - OD Account A/c No : 29830400000116

IFSC : BARBOTHENIX Branch : THENI

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution-Affiliated to Anna University, Chennai) K. VELLAKULAM - 625 701 (Near Virudhunagar)

### **BONAFIDE CERTIFICATE**

Certified that the project report "OPTIMIZATION OF CURE TEMPERATURE BY USING THERMOCOUPLE STUDY" is the Bonafide work of MADHAVAN S (920419208006) & MANOJ KUMAR B (920419208007) who carried out the project work under my supervision.

### Dr.S.GANDHI,

Head of the Department, Associate Professor, Dept. of Polymer Technology Kamaraj College of Engg & Tech K.Vellakulam, Virudhunagar – 626001

### SIGNATURE

## Mr.S.SIVAKUMARAVEL,

Supervisor, Assistant Professor, Dept.of Polymer Technology Kamaraj College of Engg & Tech K.Vellakulam, Virudhunagar- 626001

L EXAMINER



CEAT Ltd. RPG House 463 Dr. Annie Besant Road, Worli, Mumbai 400030, India +91 22 24800621 CIN: L25100MH1958PLC011041 www.ceat.com

Date - 27th February 2023

#### To Whomsoever It May Concern

This is to certify that S. Madhavan, student of Kamaraj College of Engineering and Technology, has completed his internship in our Tyre Engineering department, Building & Curing function with Project Title "Thermocouple for Hot water curing" at our Mumbai Plant.

Duration: 2nd January 2023 to 24th February 2023.

Name of the Guide: Prince Winston, Assistant Manager - Technical.

During the Internship tenure, he was found to be diligent, hardworking and inquisitive.

We wish him all the best in his future endeavors.

For CEAT Limited

Imza

Alistair Azavedo Senior Manager - HR Technology & Services



CEAT Ltd. RPG House 463 Dr. Annie Besant Road, Worli, Mumbai 400030, India +91 22 24930621 CIN: L25100MH1958PLC011041 www.ceat.com

Date - 27th February 2023

#### To Whomsoever It May Concern

This is to certify that B.Manoj Kumar, student of Kamaraj College of Engineering and Technology, has completed his internship in our Tyre Engineering department, Building & Curing function with Project Title "Thermocouple for Hot water curing" at our Mumbai Plant.

Duration: 2nd January 2023 to 24th February 2023.

Name of the Guide: Prince Winston, Assistant Manager - Technical.

During the Internship tenure, he was found to be diligent, hardworking and inquisitive.

We wish him all the best in his future endeavors.

For CEAT Limited

Imgas

Alistair Azavedo Senior Manager - HR Technology & Services

### KAMARAJ COLLEGE OF ENGGINEERING AND TECHNOLOGY (An Autonomous Institution Affiliated to Anna University, Chennai) **K.VELLAKULAM, VIRUDHUNAGAR - 626 001**

#### **BONAFIDE CERTIFICATE**

Certified that this project work report on "EFFECT OF SILICA MORPHOLOGY ON TYRE TREAD COMPOUND" is the bonafide work of "CLEMENT WINSON SAMUEL L" who carried out the project work under my supervision

SIGNATURE

Dr.S.GANDHI, M.Sc., M.Tech., Ph.D., HEAD OF THE DEPARTMENT, Associate professor, Department of Polymer Technology, Kamaraj College of Engineering & Technology, K.Vellakulam, Virudhunagar - 626 001.

L EXAMINER

Dr.R.BASKARAN, M.Tech., Ph.D.,

SUPERVISOR,

Associate professor,

Department of Bio-Technology,

Kamaraj College of Engineering & Technology,

K.Vellakulam,

Virudhunagar - 626 001.

APOLLO TYRES LTD. GLOBAL R&D CENTRE - ASIA B-25, Sipcot Industiral Growth Centre, Sriperumbudur - Singaperumal Koil State Highway, Oragadam, Sriperumbudur Taluk, Kanchipuarm District Tamil Nadu - 602105, India

T:+91 - 76049 62634 apollotyres.com



10<sup>th</sup> March 2023

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Clement Winson Samuel L**, student of B.Tech (Polymer Technology), Kamaraj College of Engineering & Technology, has undergone Internship in our organization from 02.01.2023 to 10.03.2023.

During his internship, he has successfully completed his project titled **"Effect of Silica Morphology in Tyre Thread Compound"** was done by him, under the join guidance of Dr. Rajesh Babu Ramanujam and Mr. Rajasekar Velusamy.

His progress during the training was Good.

We wish all success in all his future endeavors.

With Best wishes

Vasanth Babu Manager - Human Resources & Admin.

Registered Office: Apollo Tyres Ltd, 3rd Floor, Areekal Mansion, Panampilly Nagar, Kochi 682 036, India CIN: L25111KL1972PLC002449, Tel No. +91 484 4012046, Fax No. +91 484 4012048, Email : info.apollo@apollotyres.com

#### KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution- Affiliated to Anna University, Chennai)

#### K.VELLAKULAM, VIRUDHUNAGAR - 626 001

#### **BONAFIDE CERTIFICATE**

Certified that the project report "IMPROVEMENT OF AIR IMPERMEABILITY IN TBR INNER LINER" is the bonafide work of "K.M. BHARATH KUMAR (920419208001)" who carried out the project workunder my supervision.

SIGNATURE Dr.S.Gandhi, M.Tech., Ph.D., HEAD OFTHE DEPARTMENT, Associate professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar - 626 001

le longhong SIGNATURE

Dr.R.Baskaran, M.Tech., Ph.D., SUPERVISOR, Associate professor, Department of Bio Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar - 626 001

L EXAMINER

EXTERNAL EXAMINER

APOLLO TYRES LTD. GLOBAL R&D CENTRE - ASIA B-25. Sipent Industiral Growth Centre. Sriperumbudur - Singaperumal Koll State Highway, Oragadam. Sriperumbudur Taluk. Kanchipuarm District Tamil Nadu - 602105. India

T: +91 - 76049 62634 apollotyres.com



15th March 2023

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Bharath Kumar KM, student of B.Tech (Polymer Technology), Kamaraj College of Engineering & Technology, has undergone Internship in our organization from 02.01.2023 to 15.03.2023.

During his internship, he has successfully completed his project titled "Improvement of air impermeability in TBR inner liner" was done by him, under the guidance of Dr. Jyothi Prakash Rath.

His progress during the training was Good.

We wish all success in all his future endeavors.

With Best wishes

1.00

Vasanth Babu Manager - Human Resources & Admin.

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous institution affiliated to Anna University, Chennai) K. VELLAKULAM – VIRUDHUNAGAR – 626 001

#### BONAFIDE CERTIFICATE

Certified that the project report "COST REDUCTION BY NBR SBR BLEND IN GASKET "is the bonafide work of "RISHIHARAGURU.M (920419208009) & VADIVELAN .G (920419208015)" who carried out the project work under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech., Ph.D HEAD OF THE DEPARTMENT Associate professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar- 626 001



SIGNATURE

Dr.S.Gandhi M.Tech., Ph.D HEAD OF THE DEPARTMENT Associate professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar- 626 001

EXTERNAL EXAMINER



### TAYLOR RUBBER PVT. LTD.,

Plot No. 283, SIDCO Industrial Estate, Thirumudivakkam, Chennai - 600 044. Phone : 0091 - 44 - 4242 9292 / 4242 9283 E-mail : info@taylorrubber.com, nrs@taylorrubber.com. Website : www.taylorrubber.com + GST No : 33AABCT0089N1Z5

### TO WHOM IT MAY CONCERN

This is to certify that Mr G. VADIVELAN (920419208015), A student of B.Tech Polymer technology KAMARAJ COLLEGE OF ENGINEERING AND Technology, has successfully completed the internship programme from 03 January 2023 to 16 MARCH 2023, in our organization at QUALITY and PRODUCTION. During the period of internship programme with us he was found to be punctual, hard work and inquisitive.

We wish him every success in life

For TAYLOR RUBBER PVT. LTD.

E. ABRAHAM NELSON (FACTORY HEAD)



TAYLORS

AN IATF 16949 COMPANY



### TAYLOR RUBBER PVT. LTD.,

Plot No. 283, SIDCO Industrial Estate, Thirumudivakkam, Chennal - 600 044. Phone : 0091 - 44 - 4242 9292 / 4242 9283 E-mail : info@taylorrubber.com, nrs@taylorrubber.com. Website : www.taylorrubber.com + GST No : 33AABCT0089N1Z5



## TO WHOM IT MAY CONCERN

This is to certify that Mr M. RISHIHARAGURU (920419208009), A student of B.Tech Polymer technology KAMARAJ COLLEGE OF ENGINEERING AND Technology, has successfully completed the internship programme from 03 January 2023 to 16 MARCH 2023, in our organization at QUALITY and PRODUCTION. During the period of internship programme with us he was found to be punctual, hard work and inquisitive.

We wish him every success in life

For TAYLOR RUBBER PVT. LTD.

E. ABRAHAM NELSON Ruthorised Signatory (FACTORY HEAD)



AN IATF 16949 COMPANY

## COST REDUCTION BY CONTROLLING THE REJECTION IN METAL TO RUBBER MOLDING IN REAR SHOCK BUSHING PROJECT REPORT

Submitted by

### **B.RAM PRASATH(920419208008)**

In partial fulfillment for the award of the degree of

## **BACHELOR OF TECHNOLOGY**

IN

POLYMER TECHNOLOGY

### **KAMARAJ COLLEGE OF ENGINEERING &**

TECHNOLOGYVIRUDHUNAGAR





DEPARTMENT OF POLYMER TECHNOLOGY KAMARAJ COLLEGE OF ENGGINEERING AND TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Chennai)

K. VELLAKULAM-625701 (Near Virudhunagar)

**MARCH-2023** 

KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous institution affiliated to Anna University, Chennai)

K. VELLAKULAM – 625701 (NEAR VIRUDHUNAGAR)

### **BONAFIDE CERTIFICATE**

her.

### Certified that the project report "COST REDUCTION BY CONTROLLING THEREJECTIONIN RUBBER TO METAL BONDING IN REAR SHOCK BUSHING"

" is the bonafide work of "B.RAM PRASATH(920419208008)" who carried out the project work under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech., Ph.D., HEAD OF THE DEPARTMENT, Associate professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Near Virudhunagar.

SIG

Dr.M.G.Sribala M.Tech., Ph.D., SUPERVISOR, Assistant professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Near Virudhunagar.

EXAMINER INT

EXTERNAL EXAMINER

II



Roop Polymers Ltd. F-8/2, SIPCOT Industrial Park Sriperumbudur - 602 105, (TN) INDIA

Tel : +044-27168030/31 CIN : U18101DL1996PLC079003

Ref: RPL/HR/2022

Date: 21/03/2023

### TO WHOM SOEVER IT MAY CONCERN

This is to certify that **Mr. Ramprasath B**(92041928008) is Pursuring **B.Tech Polymer Technology in KAMARAJ COLLEGE OF ENGINEERING & TECHNOLOGY Virudhunagar.** He Has completed his Final year project(Cost reduction by controlling the rejection in metal to rubber Moulding in rear shock bushing) from 2<sup>nd</sup> Jan 2023 to 17<sup>th</sup> March 2023 and his conduct has been good.

We wish you very best in your future endeavours.

Yours faithfully,

For Roop Polymers Ltd.

No. Nocemme

(M Nermai Selvan)

Sr. General Manager – Operations

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution - Affiliated to Anna University, Chennai) K.VELLAKULAM, VIRUDHUNAGAR-626001

#### **BONAFIDE CERTIFICATE**

It is certified that the project report "STUDIES AND TROUBLESHOOTING IN AIRCRAFT TORSIONAL BOX APPLICATION" is the bonafide work of "S. JAYA PANDIA RAJAN (920419208005)" who carried out project under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech., Ph.D.

HEAD OF THE DEPARTMENT,

Associate professor,

Department of Polymer Technology,

Kamaraj college of Engg&Tech,

K.Vellakulam,

Virudhunagar-626001

RNAL EXAMINER INT

Dr.M.G.Sribala M.Tech., Ph.D.

SUPERVISOR,

Assistant professor,

Department of Polymer Technology,

Kamaraj college of Engg&Tech,

K.Vellakulam,

Virudhunagar-626001

EXTERNAL EXAMINER



March, 15th 2023

#### TO WHOMSOEVER IT MAY CONCERN

This is certify that Mr. S Jaya Pandian Rajan (Reg. No. 920419208005) of Kamaraj College of Engineering and Technology – Tamilnadu. He has joined as Intern and completed major project in "STUDIES AND TROUBLESHOOTING IN AIRCRAFT TORSIONAL BOX APPLICATION" at TATA Advanced Systems Limited, Bengaluru from 02<sup>nd</sup> January, 2023 to 15<sup>th</sup> March, 2023 under the guidance of under signed.

His character and conduct is satisfactory. We wish him all the best in his future endeavour.

enior Manager - HR

Rajeeva Rao D Deputy General Manager – ME

### KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous institution affiliated to Anna University, Chennai) K. VELLAKULAM – 625701 (NEAR VIRUDHUNAGAR)

#### **BONAFIDE CERTIFICATE**

ertified that the project report "Design and Development of new paint brush handle " is the bonafide work of "D.SATHISHPANDI(920419208012)" who carried out the project work under my supervision.

r.S.Gandhi M.Tech., Ph.D., EAD OF THE DEPARTMENT, ssociate Professor, epartment of Polymer Technology, amaraj College of Engg&Tech, .Vellakulam, Near Virudhunagar.

Dr.M.G.Sribala M.Tech., Ph.D., SUPERVISOR, Assistant Professor, Department of Polymer Technology, Kamaraj College of Engg&Tech, K.Vellakulam, Near Virudhunagar.

INTERNAL EX AMINER

EXTERNAL EXAMINER



09 Mar 2023

### **Training Certificate**

This is to certify that **Mr. D sathish pandi (Reg . No.920419208012)of Kmaraj College of Engineering and Technology - Tamilnadu.** He has joined as Intern and completed a major project in "**Design and Development of new paint brush handle**" at Sri Hari Plastic , Virudhunagar from **11 January,2023 to 13 Mach, 2023**.

During the training period, his code and conduct were good. we wish him all best in his future endeavors

SRI HARI PLASTIC Virudhunagar 626001

Pal Pandi Senior manager

Sri Hari Plastic Company 1/111 kkssn nagar 3 street pandi nagar virudhunagar 626001 KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution - Affiliated to Anna University, Chennai) K.VELLAKULAM, VIRUDHUNAGAR - 626 001.

### **BONAFIDE CERTIFICATE**

Certified that the project report "CURED TIRE BLISTER REDUCTION IN CHLOROBUTYL INNER LINER COMPOUND" is the bonafide work of "SASISEKARAN.P (920419208010) & GIFTSON SALOMON RAJA.T (920419208003)" who carried out the project work under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech., Ph.D., HEAD OF THE DEPARTMENT, Associate professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar- 626 001.

SIGNATURE Dr.M.G.Sribala M.Tech., Ph.D., SUPERVISOR, Assistant professor, Department of Polymer Technology, Kamaraj college of Engg&Tech, K.Vellakulam, Virudhunagar- 626 001.

AMINER INTER

AMINER EXTERNAL



#### Ref: ATC/TVL/TRG/22-23/07

Date: 08.03.2023

#### **CERTIFICATE**

This is to certify that Mr.P.Sasisekaran (Reg. No. 920419208010), a student of Final year **B. Tech (Polymer Technology)** from Kamaraj College Of Engineering & Technology, has completed his <u>Project</u> at ATC Tires Private Limited, Tirunelveli in Technical Department during the period from 02.01.2023 to 08.03.2023.

We wish him all success in his future endeavor.

For ATC Tires Private Limited

R.SENTHIL, DGM – HR & IR

#### ALLIANCE GALAXY PRIMEX

#### ATC Tires Pvt. Ltd.

Plant: Sipcot-SEZ, Plot No.A-2, Sipcot Industrial Growth Centre, Gangaikondan, Dist. Tirunelveli, Tamil Nadu- 627 352. Phone: +91 462 6600612 | Email : info@yokohama-oht.com

Registered Office : Unit No. 1001, 10" Floor Tower A, Embassy 247, LBS Marg, Vikhroli (West), Mumbai - 400 083 Phone: +91 22 3957 9600 | Fax: +91 22 3957 9699 | Email : info@yokohama-oht.com | CIN : U25111MH2007PTC172456



#### Ref: ATC/TVL/TRG/23-24/02

Date: 08.03.2023

#### CERTIFICATE

This is to certify that Mr.T Giftson Salomon Raja (Reg. No. 920419208003), a student of Final year B. Tech (Polymer Technology) from Kamaraj College Of Engineering & Technology, has completed his <u>Project</u> at ATC Tires Private Limited, Tirunelveli in Technical Department during the period from 02.01.2023 to 08.03.2023.

We wish him all success in his future endeavor.

For ATC Tires Private Limited

R.SENTHIL, DGM – HR & IR



#### SALLIANCE GALAXY PRIMEX

ATC Tires Pvt. Ltd. Plant: Sipcot-SEZ, Plot No.A-2, Sipcot Industrial Growth Centre, Gangaikondan, Dist. Tirunelveli, Tamil Nadu- 627 352. Phone: +91 462 6600612 | Email : info@yokohama-oht.com

Registered Office : Unit No. 1001, 10" Floor Tower A, Embassy 247, LBS Marg, Vikhroli (West), Mumbai - 400 083 Phone: +91 22 3957 9600 | Fax: +91 22 3957 9699 | Email : info@yokohama-oht.com | CIN : U25111MH2007PTC172456

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution- Affiliated to Anna University, Chennai) K.VELLAKULAM, VIRUDHUNAGAR-626001.

### **BONAFIDE CERTIFICATE**

Certified that the project report "ELIMINATION OF VOLUME POROSITY IN H-SECTION COMPOSITE BEAM" is the bonafide work of "SATHAPPAN AL (920419208011)" who carried out project under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech ., Ph.D., Head of the Department, Associate professor, Dept. of Polymer Technology, Kamaraj College of Engg. & Tech, K.Vellakulam, Virudhunagar.

SIGNATURE Dr.R.Baskaran M.Tech.,Ph.D., Supervisor, Associate professor, Dept. of Bio Technology, Kamaraj College of Engg. &Tech, K.Vellakulam, Virudhunagar.

EXTERNAL EXAMINER

INTE AMINER



March, 15th 2023

#### **TO WHOMSOEVER IT MAY CONCERN**

This is certify that Mr. A L Sathappan (Reg. No. 920419208011) of Kamaraj College of Engineering and Technology – Tamilnadu. He has joined as Intern and completed major project in "ELIMINATION OF VOLUME POROSITY IN H-SECTON COMPSITE BEAM" at TATA Advanced Systems Limited, Bengaluru from 02<sup>nd</sup> January, 2023 to 15<sup>th</sup> March, 2023 under the guidance of under signed.

His character and conduct is satisfactory. We wish him all the best in his future endeavour.

Girish Kumar Senior Manager – HR

Rajeeva Rao D Deputy General Manager – ME

### TATA ADVANCED SYSTEMS LIMITED

# 10, Jigani Industrial Area, Jigani, Bengaluru-560 105, Karnataka India 91 80 6695 5500 Fax +91 80 6695 5555 Website : www.tataadvancedsystems.com Email : email@tataadvancedsystems.com Registered Office :- Hardware Park, Plot No 21, SY No 1/1, Imarat Kancha, Raviriyala Village, Maheshwaram Mandal, Hyderabad-501218, Telangana India



\_\_\_\_ Perfect Packaging & Device Partner \_\_\_\_\_ ISO 13485 / ISO 15378 / ISO 14001 / CE : 0123

03<sup>rd</sup> Mar 2023

## **Training Certificate**

This is to certify that Mr. Dinesh Prasanth. N S/o R.Nalraj had successfully completed In-plant training programme for Two months in our company starting from 02.01.2023 to 28.02.2023.

During the training period his code and conduct were good. We wish him all the best for his future endeavors.

For Doctor Pack India Private Limited

Sindhu.

Human Resource



- Doctor Pack India Pvt. Ltd., -

Plot No. 136, Jigani Link Road, Bommasandra Industrial Area, Bangalore - 560 099, Karnataka, INDIA. Tel. : +91-80-29766663, E-mail : logistics@doctorpackindia.com, sales@doctorpackindia.com, www.doctorpackindia.com GSTIN : 29AADCD5089L1Z2, CIN : U33125KA2010PTC054051

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution-Affiliated to Anna University, Chennai)

# K. VELLAKULAM, VIRUDHUNAGAR -626001 BONAFIDE CERTIFICATE

Certified that the project report "FAILURE MODE AND EFFECT ANALYSIS IN 60 DOSE DRY POWDER INHALER is the bonafide work Of N. DINESH PRASATH (920419208302) who carried out under my

supervision

TURE

Dr.S.Gandhi, M.Tech., Ph.D.,

Head of the Department, Associate professor, Dept. of Polymer Technology, Kamaraj College of Engg & Tech, K. Vellakulam, Virudhunagar - 626 001.

SIGNATURE

Dr.R.Baskaran, M.Tech., Ph.D.,

Supervisor, Associate professor, Dept. of. Bio Technology, Kamaraj College of Engg & Tech, K.Vellakulam, Virudhunagar - 626 001.

EXTÉRNAL EXAMINER



March, 15th 2023

#### **TO WHOMSOEVER IT MAY CONCERN**

This is certify that Mr. Ashok V (Reg. No. 920419208301) of Kamaraj College of Engineering and Technology – Tamilnadu. He has joined as Intern and completed major project in "AN OVERVIEW OF THE PROCESS AND MACHINING OF THE COPOSITE PART" at TATA Advanced Systems Limited, Bengaluru from 02<sup>nd</sup> January, 2023 to 15<sup>th</sup> March, 2023 under the guidance of under signed.

His character and conduct is satisfactory. We wish him all the best in his future endeavour.

umar Senior Manager – HR

Rajeeva Rao D Deputy General Manager – ME

#### TATA ADVANCED SYSTEMS LIMITED

# 10, Jigani Industrial Area, Jigani, Bengaluru-560 105, Karnataka India I +91 80 6695 5500 Fax +91 80 6695 5555 Website : www.tataadvancedsystems.com Email : email@tataadvancedsystems.com CIN : U72900TG Registered Office :- Hardware Park, Plot No 21, SY No 1/1, Imarat Kancha, Raviriyala Village, Maheshwaram Mandal, Hyderabad-501218, Tela

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution- Affiliated to Anna University, Chennai) K.VELLAKULAM, VIRUDHUNAGAR - 626 001

## BONAFIDE CERTIFICATE

Certified that the project report "AN OVERVIEW OF THE PROCESS AND MACHINING OF A COMPOSITE PART" is the bonafide work of "ASHOK.V (920419208301)" who carried out project under my supervision.

SIGNATURE

Dr.S.Gandhi M.Tech,

Head of the Department,

Associate professor,

Dept. of Polymer Technology,

Kamaraj College of Engg & Tech,

K.Vellakulam, Near Virudhunagar.

mulling C SIGNATURE

Dr.R.BaskaranM.Tech,

SUPERVISOR,

Associate professor,

Dept. of Bio Technology,

Kamaraj College of Engg & Tech,

K.Vellakualm, Near Virudhunagar.

INTE

EXTÉRNAL EXAMINER

ii



23.02.2023

The Principal, Kamaraj College of Engineering and Technology, Virudhunagar – 626 001

Sir,

Ref: our Letter Dated 02.01.2023

Sub: Permission to undergo project work - reg.

With reference to the above letter, we pleased to inform you that the below mentioned students of your college has been permitted to do the internship training in our organization with effect from 02.01.2023 to 31.03.2023

- 1. Deepan Karthik Y (Register No: 920419114010)
- 2. Kumaresh R (Register No: 920419114019)
- 3. Navaneetha Krishnan N (Register No: 920419114026)
- 4. Nitin P (Register No: 920419208306)
- 5. Suyaraj S (Register No: 920419208014)

You are requested to direct the student to report in HR department on any working day.

Sunday is our weekly holiday.

The student will be abiding by the rules and regulations of the Company.

Thanking you

For Indocool Composites Private Limited

**Authorized Signatory** 

Indocool Composites Private Limited Factory : Plot No. 538 & 539, Phase 3, SIPCOT Industrial Complex, Mugundarayapuram, Ranipet, Tamil Nadu 632 405, India. E : contact@indocool.in W : www.indocool.in

# KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution- Affiliated to Anna University, Chennai) K. VELLAKULAM, VIRUDHUNAGAR - 626 001

### **BONAFIDE CERTIFICATE**

Certificate that the project report "INVESTIGATION OF MECHANICAL PROPERTIES OF NATURAL FIBRE USING POLESTER RESIN" is the bonafide work of "P.NITIN (920419208306) & S.SUYARAJ (920419208014)" who carried out the project work under my supervision.

SIGNATURE

Dr. S. GANDHI Head of the Department, Associate Professor, Dept. of Polymer Technology, Kamaraj College of Engg & Tech, K.Vellakulam, Virudhunagar - 626 001.

Dr. S. GANDHI SUPERVISOR, Associate Professor, Dept. of Polymer Technology, Kamaraj College of Engg &Tech, K.Vellakulam, Virudhunagar - 626 001.

EXTERNAL EXAMINER

INTERNAL EXAMINER

ij.

## KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution- Affiliated to Anna University, Chennai) K. VELLAKULAM, VIRUDHUNAGAR - 626 001

### **BONAFIDE CERTIFICATE**

Certified that the project report "DESIGN, ANALYSIS AND FABRICATION OF LIGHT WEIGHT CHASSIS FRAME FOR LIGHT DUTY MULTI PURPOSE ELECTRIC VEHICLE" is the bonafide work of "S. MANIKANDAN (920419208303)" who carried out the project work under my supervision.

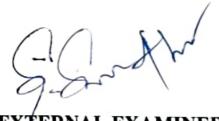
SIGNATURE

Dr. S. GANDHI, M.Tech., Ph.D., Head of the Department, Associate Professor, Dept. of Polymer Technology, Kamaraj College of Engg & Tech, K.Vellakulam, Virudhunagar - 626 001.

ATURE

Dr. S. GANDHI, M.Tech., Ph.D., SUPERVISOR, Associate Professor, Dept. of Polymer Technology, Kamaraj College of Engg &Tech, K.Vellakulam, Virudhunagar - 626 001.

INTER



EXTERNAL EXAMINER

## **Department of Polymer Technology**

## Internship details

S.No.	Roll Number	Name of the Student	No. of Days	Name of the Industry
1	20UPT001	VIGNESH.R	19 days	Kinga Science and Technology India Ltd., 38/1, Sedarapet Industrial Area, Pondicherry - 605011
2	20UPT002	KATHIRVEL.M	19 days	Kinga Science and Technology India Ltd., 38/1, Sedarapet Industrial Area, Pondicherry - 605011
3	20UPT003	MOHAN PRASATH.M	19 days	Kinga Science and Technology India Ltd., 38/1, Sedarapet Industrial Area, Pondicherry - 605011
4	20UPT004	SELVA KUMAR.J	19 days	Kinga Science and Technology India Ltd., 38/1, Sedarapet Industrial Area, Pondicherry - 605011
5	20UPT005	SUREKA.P	17 days	BHARGAVE RUBBER PRIVATE LTD., TARA GARDENS 342 MELAKKAL MAIN ROAD MADURAI TN 625016

### KINGEA

#### 14" July 2023

#### INDUSTRIAL TRAINING COMPLETION CERTIFICATE

This is to certify that Mr. R. VIGNESH (Roll No. 20UPT001) Student of Kamaraj College of Engineering & Technology, S.P.G. Chidambara Nadar C. Nagamal Campus, Vellakullam, Tamil Nadu 625 701 has completed a project work on the title of **"Improving the Tensile strength of 30% glass filled Polypropylene compound , in KINGFA SCIENCE AND TECHNOLOGY INDIA LTD., SEDARAPET**" during the period from 10<sup>th</sup> June 2023 to 28<sup>th</sup> June 2023.

Yours Truly, For Kingfa Science and Technology India Ltd.,

Pli

UNIT HEAD - SOUTH



KINGFA SCIENCE & TECHNOLOGY (INDIA) LIMITED (Formerly Hydro S & S Industries Ltd.) CIN: L25209TN1983PLC010438 38/1, Sedarapet Industrial Area. Email: pondyprida@hssil.com

Regd. Office: Dhun Building, 3<sup>rd</sup> Floor, 827 Anna Salai, Chennai: 600002. Tel: +44 - 28521736: Fax: +44 - 28520240

### KINGFA

#### 14th July 2023

#### INDUSTRIAL TRAINING COMPLETION CERTIFICATE

This is to certify that Mr. M. KATHIRVEL (Roll No. 20UPT002) Student of Kamaraj College of Engineering & Technology, S.P.G. Chidambara Nadar C. Nagamal Campus, Vellakullam, Tamil Nadu 625 701 has completed a project work on the title of **"To Reduce the patch mark / shiny patch in compounding process in KINGFA SCIENCE AND TECHNOLOGY INDIA LTD., SEDARAPET"** during the period from 10<sup>th</sup> June 2023 to 28<sup>th</sup> June 2023.

Yours Truly, For Kingfa Science and Technology India Ltd.,

**UNIT HEAD - SOUTH** 



KINGFA SCIENCE & TECHNOLOGY (INDIA) LIMIT (Formerly Hydro S & S Industries Ltd.) CIN: L25209TN1983PLC010438 38/1, Sedarapet Industrial Area, Email: pondypnda@hssil.com

Regd. Office: Dhun Building, 3" Floor, 827 Anna Salai, Chennai: 600002. Tel: +44 - 28521736. Fax: +44 - 28520240

KINGEA

14<sup>th</sup> July 2023

### INDUSTRIAL TRAINING COMPLETION CERTIFICATE

This is to certify that Mr. M. MOHAN PRASATH (Roll No. 20UPT003) Student of Kamaraj College of Engineering & Technology, S.P.G. Chidambara Nadar C. Nagamal Campus, Vellakullam, Tamil Nadu 625 701 has completed a project work on the title of **"Improving the Tensile strength of 30% glass filled Polypropylene compound , in KINGFA SCIENCE AND TECHNOLOGY INDIA LTD., SEDARAPET**" during the period from 10<sup>th</sup> June 2023 to 28<sup>th</sup> June 2023.

Yours Truly, For Kingfa Science and Technology India Ltd.,

**UNIT HEAD - SOUTH** 





CIN: L25209TN1983PLC010438 38/1, Sedarapet Industrial Area, Email: pondypnda@hssil.com

Regd. Office: Dhun Building, 3<sup>rd</sup> Floor, 827 Anna Salai, Chennai: 600002. Tel: +44 - 28521736. Fax: +44 - 28520240

## KINGFA

14th July 2023

#### INDUSTRIAL TRAINING COMPLETION CERTIFICATE

This is to certify that Mr. M. J. SELVAKUMAR (Roll No. 20UPT004) Student of Kamaraj College of Engineering & Technology, S.P.G. Chidambara Nadar C. Nagamal Campus, Vellakullam, Tamil Nadu 625 701 has completed a project work on the title of **"To Reduce the patch mark / shiny patch in compounding process in KINGFA SCIENCE AND TECHNOLOGY INDIA LTD., SEDARAPET"** during the period from 10<sup>th</sup> June 2023 to 28<sup>th</sup> June 2023.

Yours Truly, For Kingfa Science and Technology India Ltd.,

**UNIT HEAD - SOUTH** 



CIN: L25209TN1983PLC010438 38/1, Sedarapet Industrial Area, Email: <u>pondypnda@hssil.com</u>

Regd. Office: Dhun Building, 3rd Floor, 827 Anna Salai, Chennai: 600002. Tel: +44 – 28521736. Fax: +44 - 28520240

PUDUCHERR



The Head of the Department Department of Business Administration Kamaraj College of Engineering and Technology K.Vellakulam-625701

Dear Sir,

This is to certify that Ms P.Sureka (20UPT005) B.Tech (Polymer Technology) third year student of your College has undergone Internship Training in our Organization from 14.06.2023 to 30.06.2023.

Thanking you

Yours Faithfully for **Bhargave Rubber Private Ltd.**,

A.Lakshmi Narasimhan Director



IATF 16949 : 2016 and ZED certified Company